

3rd International Conference & Exhibition on**TISSUE PRESERVATION AND BIOBANKING &**6th International Conference on**TISSUE ENGINEERING AND REGENERATIVE MEDICINE**

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Reproductive tissue banking for young boys of pre-reproductive age**Yulian Zhao**

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Loss of fertility can significantly compromise quality of life. For populations of reproductive age, fertility preservation strategies have been well established and widely used, but most of the technologies are not options for pediatric age group, because of their sexual immaturity. Majority of such cases would be cancer patients. One of the medical late effects of cancer treatment is infertility or severely compromised fertility. Fertility preservation is of great importance to psychological well-being and to the quality of life for these patients. Fertility preservation for this population has become an issue of attention in recent decades. Strategies for long-term preservation and storage of reproductive tissue for this particular population are of key importance for scientific research and reproductive medicine. This emerging field encompasses cryopreservation of reproductive cells including testicular cell suspensions and testicular tissue. There are 3 potential strategies under active investigation. The first one is to cryopreserve testicular tissue or cell suspension before cancer therapy. Once the patient is cured from cancer and ready to begin a family, the tissue or cells could be thawed and re-implanted into the patient's own testes to continue full maturation. The second option is *in vitro* differentiation of testicular tissue. Spermatozoa may be generated from spermatogonial stem cells *in vitro* until they can be used for *in vitro* fertilization or be re-implanted into the testes. The third one is that immature cryopreserved testicular tissue may be grafted into another organ or tissue of the patient. These fertility restoration techniques have been successfully applied in several animal models and are considered to be very promising for future clinical applications in human.

Biography

Yulian Zhao is an Associate Professor of Gynecology and Obstetrics and Director of Assisted Reproductive Technology Laboratory at the Department of Gyn/Ob, the Johns Hopkins University School of Medicine. She is an Officer, Board Member, Committee Member and Active Member in a number of professional organizations and societies in the field of Reproductive Medicine. She frequently acts as an ad hoc reviewer for over 12 professional journals and has been a recipient of several academic awards. She has authored over 50 peer-reviewed articles, review articles and book chapters as well as delivered over 50 presentations at the professional conferences and society events nationally and internationally.

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